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The West Bengal University of Health Sciences
MBBS 2nd Professional Examination (New Regulation) March - April 2023

Subject : Microbiology

Full Marks : 100

Paper : I

Time : 3 hours

Attempt all questions. The figures in the margin indicate full marks

1. a) A 9 year old girl is admitted in the pediatric ward with history of fever not touching the baseline and is increasing gradually over the past 6 days. She was having pain in abdomen, loss of appetite and general weakness. On examination, she was found to have a temperature of 101°F, pallor, coated tongue, mild splenomegaly and abdominal tenderness. 1-2+8+2+2
 - i) What is the clinical condition?
 - ii) What are the likely bacterial agents involved?
 - iii) How will you establish the etiological diagnosis in the laboratory?
 - iv) Outline the treatment guideline in this case.
 - v) Can you prevent such infection?
- b) A male patient from Bihar attended OPD with fever, anemia and huge enlarged spleen for last 6 months. He is also having blackish discoloration of the skin. 2-2-6+5
 - i) What is the most probable diagnosis and what is the vector?
 - ii) Which protozoa is responsible for this?
 - iii) Describe the immunopathogenesis of the disease.
 - iv) How will you diagnose the case in the laboratory?
2. a) i) How will you collect the sample for the laboratory confirmation of B.T. Malaria. 4+6
 - ii) Discuss with labeled diagram of any one form of parasite, present in this condition.
- b) Describe cold sterilization. Give examples. Mention five commonly used disinfectants and their recommended concentration. 5+5
- c) Briefly describe the mechanism of anaphylaxis. Enumerate the chemical mediators released in such reactions with their significant roles. 5+5
3. Write short notes on : 5+5
 - a) Type II Hypersensitivity.
 - b) Importance of properly labeled sample and adequate information in requisition form.
4. Explain the following statements: 5 x 4
 - a) Clinical manifestations of acute rheumatic fever develop after 3 weeks following streptococcal sore throat.
 - b) A knowledge about endemic titre is important to interpret the result of Widal Test.
 - c) For lab diagnosis of dengue, duration of fever has got immense importance.
 - d) All morphological forms of *P. falciparum* are not usually detected in peripheral blood smear.
 - e) Ascariasis can lead to development of acute abdomen.
5. Choose the correct option for each of the following: 10 x 1
 - a) Which strategy is followed for the diagnosis of HIV infection in an asymptomatic individual:
 - i) Strategy I.
 - ii) Strategy II A.
 - iii) Strategy II B.
 - iv) Strategy III.

P.T.O

- b) *Cryptococcus neoformans* is a
- Dimorphic fungus.
 - True yeast.
 - Yeast like fungus.
 - Mould.
- c) All are antigen presenting cell except:
- Dendritic cell.
 - B lymphocyte.
 - Macrophage.
 - Cytotoxic T lymphocyte.
- d) Influenza virus contains the following antigens:
- Haemagglutinin.
 - Neuraminidase.
 - M protein.
 - All of the above.
- e) Which one is incorrect statement in relation to mutual drug resistance:
- Resistance to one drug at a time.
 - Low degree of resistance.
 - Resistance is not transferable to other organism.
 - Resistance cannot be prevented by combination of drugs.
- f) All of the following are examples of device associated infection (DAI) except:
- VAP
 - SSI.
 - CRBSI.
 - CAUTI.
- g) All of the following are examples of agglutination reaction except:
- Paul Bunnell test.
 - Weil-Felix reaction.
 - Widal test.
 - Kahn test.
- h) All of the following are examples of transport media except:
- Cary Blair media.
 - Venkatraman - Ramakrishnan media.
 - Thioglycollate broth.
 - Autoclaved sea water.
- i) Polar flagella is found in following bacteria:
- Salmonella*.
 - Staphylococcus*.
 - Pseudomonas*.
 - Brucella*.
- j) Selective media for *Pseudomonas* is:
- Cetrimide agar.
 - MYP agar.
 - Mannitol salt agar.
 - XLD agar.